Cucamonga Valley Water District

2005

URBAN WATER MANAGEMENT PLAN

December 31, 2005

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Urban Water Management Plan

Law

> 10620 (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (Section 10640)

Cucamonga Valley Water District provides more than 3,000 acre feet of water annually for municipal purposes and is therefore required to prepare an updated Urban Water Management Plan every 5 years. A map of CVWD's service area is shown in APPENDIX A.

Date plan submitted to the Department of Water Resources: **12/13/05**

Person preparing this plan: **Rita A. Kurth, Water Resource Administrator**

Phone: **(909) 987-2591**

Fax: **(909) 476-7031**

E-mail address: **RitaK@cvwdwater.com**

The Water supplier is a: **Water District**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Water/Wastewater**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

Agency Coordination

Law

> 10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

The Agencies listed below were sent a letter of invitation to participate in the preparation of the District's 2005 Urban Water Management Plan. City of Rancho Cucamonga and City of Upland staff indicated they would be willing to provide any information that would be relevant to the Plan. The District also relied on information from the Inland Empire Utilities Agency (IEUA) and the Metropolitan Water District of Southern California District (MWD). District staff attended a workshop sponsored by the State of California, Department of Water Resources and the California Urban Water Conservation Council to help in the preparation of the Plan. Metropolitan Water District also held a workshop on their Plan. Table 1 summarizes the efforts CVWD has taken to include various agencies in the preparation of this document.

Table 1
Coordination with Appropriate Agencies

Check at least one box on each row	Participated in UWMP development	Commented on the draft	Attended public meetings	Contacted for assistance	Sent copy of draft	Sent a notice of intention to adopt	Not Involved / No Information
Building Ind. Assn.					✓	✓	
IEUA	✓			✓	✓	✓	
Chino Basin Watermaster					✓	✓	
City of Rancho Cucamonga	✓			✓	✓	✓	
City of Fontana					✓	✓	
City of Montclair					✓	✓	
City of Chino					✓	✓	
City of Chino Hills					✓	✓	
City of Upland					✓	✓	
City of Ontario					✓	✓	
Monte Vista Wtr. District					✓	✓	
County of San Bernardino	✓			✓	✓	✓	

Water Management Tools and Options

Law

> 10620 (f) An urban water supplier shall describe in the plan water management tools and options that is used that will maximize resources and minimize the need to import water from other regions.

The Cucamonga Valley Water District completed a Water Supply Planning Strategy report which was adopted by the Board of Directors in November 2004 (APPENDIX B). This Plan detailed each of the challenges that have been and will be of significant concern to the District. The Plan details strategies for addressing increasing population and demand, identifying needed infrastructure for meeting this demand and implementing security measures to protect facilities and resources. Included in the plan is a strategy for meeting CVWD's future demands through various resources such as imported water, groundwater, local supplies, recycled water and conservation. An important component of the Plan is to ensure these supply obligations be met in a financially responsible manner.

Construction of new wells and reservoirs, conservation and drought planning programs and the use of recycled water will help to decrease dependence on imported water and are part of the overall strategy the District has developed for meeting future water supply challenges.

To keep CVWD's Board of Directors informed, a Bi-Annual Water Supply Report is prepared. Included in this report are production figures for the past six months, historical well levels as they relate to nitrate and DBCP contamination, historical and current well levels, annual rainfall to date, and regional updates.

Historic Information

Law

> 10630 Certain specific provisions of the Act require inclusion of historic information "if available."

The Cucamonga County Water District was organized in March 1955 under the provisions of Division 12 of the State Water Code. The impetus for the District's formation was to provide adequate water supplies for the growing Cucamonga Valley. Prior to the District's formation, water was served through the efforts of some 24 privately owned mutual water companies and a few individually owned wells. The growth of the area and the continuing dry precipitation cycles convinced the stockholders of the Cucamonga Water Company and the Cucamonga Basin Protective Association to push for the creation of a public agency to manage these issues. In 1956 the basic system construction was completed and in 1957, the District's first Water System Development Plan was adopted. A subsequent $3.7 million bond issue was approved by the voters to fund a series of acquisitions, by the District, of approximately 24 local mutual water companies to consolidate the region's water supply efforts.

At the time drought conditions were plaguing the various water companies, a complaint was filed in the Superior Court by San Antonio Water Company to determine the water rights of all Cucamonga Basin users. This act had the effect of solidifying the various local interests into a common defense, and resulted in the annexations into the Chino Basin Municipal Water District (now known as Inland Empire Utilities Agency) and Metropolitan Water District and the creation of the Cucamonga County Water District.

Following the District's organization, engineering studies were authorized to determine the most feasible method of supplementing local water supplies. As a result, the construction of the basic infrastructure system was completed and became operational in September of 1956.

After the initial construction program, the District adopted a Water System Development Plan in 1957 and the voters of the District approved the subsequent bond issue in the amount of $3.7 million dollars the same year. Implementation of the plan was commenced almost immediately, and a series of private water company acquisitions which included approximately fourteen companies, was concluded over the following few years.

In 1963 the District instituted a successful $1.5 million bond issue for the purpose of providing a community sewer system. This service has expanded rapidly and is now available to about three-fourths of the District's inhabitants.

Historic Information (continued)

During the early years of the District it has seen a growth of both service area and number of services. In the 1970's and 1980's the service area extended eastward to include the Etiwanda area through the acquisition of the Rochester Water Company and into a portion of Fontana through the acquisition of the Southwest Suburban Water Company service area and finally the Etiwanda Water Company.

To service the expanded area and growing population additional sources of water had to be developed and to that end the gravity sources in Deer Canyon and Cucamonga Canyon were utilized through the improvement of collection and piping systems.

In the late 1970's a connection was made to the MWD's Foothill Feeder line. The Royer-Nesbit Water Treatment Plant was built to accept and treat State Project water and surface water collected from Day and East Etiwanda Canyons.

It was during the 1980's that the District constructed new deep wells in both the Cucamonga Basin and the Chino Basin in order to meet the growing demand for water. By 1987 it was determined that another water treatment plant was needed in order to meet growing water demands. As a result, the Lloyd W. Michael Water Treatment Plant became operational in June 1989 and had the capacity to treat 35 million gallons of water per day.

In 1993 the State of California Department of Health Services (DOHS) instructed the District that they could no longer use its Cucamonga Canyon water source without installing an approved treatment process prior to the water entering the District's distribution system. This was a requirement of the Surface Water Filtration and Treatment Disinfection Regulations. The District determined that the canyon waters were a reliable, good quality source of water, and as such warranted the effort to construct a treatment facility that would enable the District to comply with water quality regulations.

On October 1, 1997, the District dedicated its third treatment facility, the Arthur H. Bridge Water Treatment Plant. The facility has the capacity to treat up to 4.0 million gallons per day (mgd), and is expandable to 5.0 mgd. The treatment plant utilizes a micro filtration using an ultra low-pressure membrane process for removing impurities in the water.

In order to keep up with the rapid growth in the area, in 2002, the Lloyd Michael Water Treatment Plant capacity was increased to treat 60 million gallons/day. Since that time, the District has focused on construction of new wells increasing its capability to produce more groundwater and thereby reducing its dependence on imported water supplies as outlined in its Water Supply Planning Strategy.

In 2004, Cucamonga County Water District's name was changed to Cucamonga Valley Water District. One of the reasons for the change was that many of the District's inland empire partners are located in the Cucamonga Valley, a term that dates back to the region's wine-making roots. CVWD's area of influence covers the former viticultural boundaries of the Cucamonga Valley, which is an established geographical area.

Service Area Information with 20 Year Projections

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

Population Projections

The present service boundaries of the District include the City of Rancho Cucamonga and extend east into the City of Fontana, south into the City of Ontario, west into the City of Upland and north into the unincorporated areas of San Bernardino County. CVWD's service area presently covers 47 square miles. The District provides water service to approximately 170,000 people through 47,000 service connections. The source for population growth is based on information obtained from the California State Department of Finance data, which is shown in Table 2.

Table 2
Population - Current and Projected

	2005	2010	2015	2020	2025	2030/opt
Service Area Population	169,855	203,870	220,180	233,400	242,700	248,000

Source: CVWD Water Supply Planning Strategy Report 11/04 based on 2004 California State Department of Finance data.

Climate

CVWD's service area is located within a desert climate zone of Southern California similar to a Mediterranean climate. This special type of climate is characterized by hot dry summers and rain during the winter months.

Service Area Information with 20 Year Projections (continued)

Climate (continued)

Table 3 Climate						
	January	**February**	**March**	**April**	**May**	**June**
Standard Avg ETo	2.00	2.28	3.43	4.62	4.99	6.04
Average Rainfall	3.65	2.85	2.80	1.13	0.26	0.04
Avg Temperature	55.5	57.2	58.2	61.5	66.2	71.7

Table 3 (continued) Climate							
	July	**August**	**September**	**October**	**November**	**December**	**Annual**
Average ETo	6.98	6.97	5.27	3.96	2.65	2.06	**51.25**
Average Rainfall	0.01	0.11	0.34	0.34	1.72	2.07	**15.32**
Avg Temperature	78.6	78.7	76.3	69.2	61.0	56.3	**65.9**

Source: Period of Record Monthly Climate Summary, Fontana, CA
CIMIS Station #82, Claremont, CA

Beginning in the late 1940's and continuing for about twenty years into the late 1960's most of Southern California experienced an extensive dry cycle. During this period rainfall was reduced to about one-half of the previous averages. Prior to this dry period most of the water supply within the Cucamonga area originated from collection systems constructed in the mountain canyons and from wells in the Cucamonga Basin. A small amount of water was produced from wells in the Chino Basin to the south.

The continuing dry cycle was an extremely difficult period for most of the water companies. Pumps were lowered at regular intervals, some wells were abandoned and new deeper wells drilled. Many companies reduced the amount of water delivered to stockholders. Additional production from the Chino Basin was commenced as a result of the lowered water table in the Cucamonga Basin.

If a weather pattern lasts a short time (say, a few weeks or a couple months), a drought is considered *short-term*. But if the weather or atmospheric circulation pattern becomes entrenched and the precipitation deficits last for several months to several years, the drought is considered to be a *long-term* drought. It is possible for a region to experience a long-term circulation pattern that produces drought, and to have short-term changes in this long-term pattern that result in short-term wet spells. Likewise, it is possible for a long-term wet circulation pattern to be interrupted by short-term weather spells that result in short-term drought.

Service Area Information with 20 Year Projections (continued)

Climate (continued)

The recent periods of 1977 through 1979, 1989 through 1994 as well as the last four years have been considered drought cycles. The five-year average rainfall was 17.25 inches. Last year's rainfall total was 10.32 inches (source: San Bernardino County Flood Control District). However, the 2005 rainy season total was the second highest rainfall total on record. Monthly average temperatures range from a low of 44 degrees in December and January to a high of 107 degrees during the summer months.

Other Demographic Factors

Rancho Cucamonga is a comparatively large city and encompasses a total planning area of approximately 50 square miles. The City's General Plan highlights the fact that the attraction of its homes to the Southern California's housing market is one of the community's most notable characteristics. This is accounted for by the fact that there is a concentration on a number of master planned neighborhoods that offer exceptional quality and value. 41% of the community is residential.

59% of the community is devoted to non-residential use such as commercial, mixed use and industrial, transportation and open space. The mixed-use category consists mostly of some form of commercial use combined with residential. Industrial Parks category allows for general and medical offices and limited retail and service commercial use. Transportation consumes a significant part of the land resources. Included in the non-residential designation are arterial highways and freeways.

Over a quarter of the community land area is devoted to open space, half of which is a result of extensive flood control and utility corridor lands throughout the City. The open space category allows for a small amount of residential use. An additional significant change is the increase in open space and conservation acreage, primarily as a result of significant recent dedication of "mitigation lands" in the hillside area of the community. These parcels are purchased by developers as mitigation for environmental impacts of development.

The City of Rancho Cucamonga Redevelopment Agency promotes affordable housing production. Several recognized special needs groups reside in the City; these include the handicapped, elderly, large families, families with female heads of households and families and persons in need of emergency shelter.

The median income as quoted by the City of Rancho Cucamonga's website is $67,752 with an average income of $80,897. The median age is 32.2 years and the median size household is 3.09 persons. 23.3% of wage earners are college graduates. The average home price is $342,710. In 2004, Rancho Cucamonga was among the top ten fastest growing cities in the U. S. (source: Daily Bulletin May 3, 2005).

Water Sources

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a). If groundwater is identified is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan: (see Section 10631(b)(1), (2), (3) and (4).

Current and Planned Water Supplies

The CVWD fortunately has a variety of water sources, including groundwater from two separate groundwater basins, local surface and sub-surface flows, and imported water from Northern California. Table 4 provides a breakdown of these sources over a twenty-year period of time. The information that follows the table describes each of these sources.

Table 4
Current and Planned Water Supplies – AFY

Water Supply Sources	2005	2010	2015	2020	2025	2030/opt
Purchased from wholesaler (Imported Water from MWD)	35,000	29,000	29,000	29,000	29,000	29,000
District produced groundwater - Chino Basin	13,000	28,000	34,000	37,000	37,000	37,000
Dry Year Yield Program (see pg. 11)	411	2,430	2,430	2,430	2,430	2,430
District produced groundwater – Cucamonga Basin	5,400	5,400	5,400	5,400	5,400	5,400
District produced surface water	3,000	3,000	3,000	3,000	3,000	3,000
Conservation	1,146	6,390	7,050	7,700	7,700	7,700
Recycled Water	1,270	10,250	15,900	19,220	21,600	21,600
Total	**59,227**	**84,470**	**96,780**	**103,750**	**106,130**	**106,130**

Source: CVWD Water Supply Planning Strategy Report 11/04
Recycled water projections from Inland Empire Utilities Agency's Urban Water Management Plan

Water Sources - Groundwater

Groundwater is pumped by the District from two groundwater basins: the Cucamonga Basin and the Chino Basin. Over the years, the Cucamonga Basin has served as the predominant source of groundwater for the District with the production being two-thirds, or more of the total groundwater pumped by the District, however, in more recent years the District's production from the Chino Basin has continued to increase and now exceeds Cucamonga Basin production.

Current and Planned Water Supplies (continued)

Groundwater (continued)

Table 5 Groundwater Pumping Rights – AFY	
Basin Name	**Pumping Right – AFY**
Cucamonga Basin	15,471.00
Chino Basin	10,016.10
Total	25,487.19

Table 6 Amount of Groundwater Pumped – AFY					
Basin Name	**2000**	**2001**	**2002**	**2003**	**2004**
Cucamonga Basin	10,642	6,659	6,719	5,051	6,714
Chino Basin	6,195	6,863	10,586	10,020	12,582
% of Total Water Supply	33%	28%	33%	29%	37%

Table 7 Amount of Groundwater Projected to be Pumped – AFY					
Basin Name(s)	**2010**	**2015**	**2020**	**2025**	**2030 – opt**
Cucamonga Basin	5,400	5,400	5,400	5,400	5,400
Chino Basin	28,000	34,000	37,000	41,500	45,000
% of Total Water Supply	52%	56%	55%	56%	56%

Source: CVWD Water Supply Planning Strategy Report 11/04

Cucamonga Basin. The northwestern portion of the District's service area overlies most of the Cucamonga Basin. Groundwater pumping from the Cucamonga Basin is limited by a 1958 Superior Court stipulated judgment. The District's stipulated groundwater right amounts to 15,471 acre feet per year (acre feet/year). The total stipulated groundwater yield for the Cucamonga Basin is 22,721. The Cucamonga Basin Water Management Plan is currently being updated and a copy of the 1958 Judgment is attached as APPENDIX C.

The Cucamonga Basin has been the focus of numerous studies. According to the results of a study completed in 1985, the sustainable yield of the geologically defined basin was estimated to be 22,200 acre feet/year under fully developed conditions. The study further concluded that the sustainable yield of the legally defined Cucamonga Basin was approximately 19,100 acre feet/year. Both of those estimates of the Basin's sustainable yield are less than the annual groundwater sustainable yield defined in the 1958 Judgment. If those estimates are correct, the end result would be to lower the District's aggregate annual

Current and Planned Water Supplies (continued)

Cucamonga Basin (continued)

groundwater right in the Cucamonga Basin commensurate with the lower estimate of sustainable yield.

The District pumps groundwater from the Cucamonga Basin from seventeen wells that comprise two well fields: the Cucamonga Creek cluster with ten wells, and the Alta Loma cluster with seven wells. Six of the wells in the Cucamonga Basin are impacted by high concentrations of nitrate and dibromochloropropane (DBCP). The District has developed operational blending plans so that the other eleven wells can continue to be used for potable uses. The well blending plans have been approved by the California Department of Health Services.

In the Cucamonga Basin, over the past ten years from 1995 through 2004, the total annual groundwater produced by the District has ranged from a low of about 5,051 acre feet in calendar year 2003 to a maximum of 15,319 acre feet in 1996. The average annual groundwater production for the ten-year period was about 10,282 acre feet/year.

Chino Basin. The Chino Basin is situated immediately upstream of the Orange County Basin in the Santa Ana River watershed and the southern portions of the District's service area overlie the Chino Basin, which is separated from the Cucamonga Basin by the Red Hill Fault. The District's Chino Basin production had been from five wells until 2001 when another well was added. During 2004 and 2005, four new wells were drilled in the Chino Basin. Funding for these wells was provided through the District's participation in the Chino Basin Dry Year Yield Program. In return for these funds, the District has agreed to increase groundwater production and reduce imported water use during dry years. In addition to being consistent with Cucamonga Valley Water District's Water Supply Planning Strategy, this program lends regional support to addressing statewide water supply issues.

The groundwater rights in Chino Basin were adjudicated as part of the Chino Basin judgment of 1975 and a copy is attached as APPENDIX D. The judgment established water rights for the overlying agricultural and non-agricultural pools, limiting their groundwater production in the aggregate. Based on the judgment, the District's maximum annual groundwater pumping right is limited to an appropriative right of 3,619.454 acre feet/year. The District also receives an additional 6,396.736 acre feet per year as a result of the purchase of Fontana Union Water Company stock in 2000. With this acquisition, the District's minimum aggregate groundwater rights and access to groundwater in the Chino Basin is 10,016.184.

The Chino Basin is the largest groundwater basin in the Upper Santa Ana Watershed. It currently contains 5 million acre feet of water in storage, with the additional unused storage capacity based upon historic water levels in the basin of about 1 million acre feet. The average safe yield is 140,000 acre feet allocated among three pools as follows: (1) Overlying Agricultural Pool: 82,800 acre feet per year; (2) Overlying Non-Agricultural Pool: 7,366; and (3) Appropriative Pool: 49,834 acre feet per year. Production in excess of the safe yield of the groundwater basin must be replaced with replenishment water. Water to replenish the Chino Basin is purchased from the Metropolitan Water District by the Inland Empire Utilities

Current and Planned Water Supplies (continued)

Chino Basin (continued)

Agency in coordination with the Chino Basin Watermaster. Supplemental sources of replenishment water come from the recharge of recycled water and storm water. In addition, water is reallocated to the Appropriative Pool for urban use from the Overlying Agricultural Appropriative Pool when it is not put to use by agricultural users. As agriculture production declines in the Basin, the reallocation of water to the Appropriative Pool is expected to increase.

While the District's Chino Basin wells produce water that meets all State and Federal regulations, groundwater quality in the lower Chino Basin historically has exceeded State mandated objectives for nitrogen and total dissolved solids. The problem has been caused by percolation of runoff from past and present agricultural and dairy activities in the region as well as from other industrial and municipal operations. In June 2000, the Optimum Basin Management Plan (copy attached as APPENDIX E) was adopted by the Chino Basin Watermaster and approved by appropriative pool members to address water quality problems within the Basin and to increase the water supply available from this source.

In the Chino Basin, over the past ten years from 1995 through 2004, the total annual groundwater produced by the District has ranged from a low of about 5,101 acre feet in 1998 to a maximum of 12,582 acre feet in 2004. The average annual groundwater production for the ten-year period was about 8,046 acre feet/year.

Local Canyons

Over the years, the District has acquired surface and subsurface water rights in four local canyon watersheds, which are situated in the San Gabriel Mountains north and adjacent to the District's service area. From west to east, the local canyon water sources include the Cucamonga Canyon, Deer Canyon, Day Canyon and East Etiwanda Canyon. The total annual local canyon production for a ten-fiscal year period from 1995 through 2004 has ranged from a low of 1,892 acre feet in 2004 to a high of 9,580 acre feet in 1998. All water from the canyon sources flow to one of three District-owned water treatment facilities.

During the past ten years flows from canyon sources have been severely impacted by drought conditions. In addition, after the Grand Prix fire swept across the foothills of the San Gabriel mountains in October 2003, several torrential rainstorms occurred resulting in a huge inundation of debris that destroyed canyon intakes. All but the Cucamonga Canyon intake facilities have been restored. Application was filed with FEMA and funds were approved to make necessary repairs to these facilities and this work is currently in progress.

Current and Planned Water Supplies (continued)

Local Canyons (continued)

Cucamonga Canyon. Based on a 1958 Superior Court stipulated judgment, the District has a surface water right to 250 miner's inches of runoff in Cucamonga Creek. That surface water right equates to a daily flow rate of 3.24 million gallons per day. In the Cucamonga Canyon there were no diversions during the period from 1993-94 to 1996-97. The canyon subsurface flow diversion was terminated by the District in June 1993 in response to the California Department of Health Service's determination that the collected subsurface flows were under the direct influence of the surface flows, and would have to be treated in accordance with the California Surface Water Treatment and Disinfection regulations at which time, the District constructed its Arthur H. Bridge Treatment Plant, which has been previously described in this report. The average annual flow diversion from Cucamonga Canyon for the years when diversions occurred is about 1,130 acre feet/year. The canyon flow diversion, over the last ten years has ranged from about 10 to 34 percent of the District's total canyon flow diversions.

Deer Canyon. The District acquired water rights in Deer Canyon through the purchase of the Hermosa Water Company. The rights are appropriative, and include all surface and subsurface flows originating from the canyon. Surface flows from East Calamity Canyon and Fan Canyon are no longer utilized. Subsurface spring flows are collected from the District's Tunnel A, Thayer Tunnel and Hermosa Tunnel.

The annual flow diversions from Deer Canyon have ranged from a low of 209 acre feet in 2002 to a maximum of 2,355 acre feet in 1995. The average annual flow diversion for the ten-year period, have ranged from 8 to 26 percent of the District's total canyon flow diversions.

Day Canyon. The District acquired water rights in Day Canyon when it acquired the Rochester Water Company in 1972 and the Etiwanda Water Company in 1986. The rights are appropriative and include all surface and subsurface flows originating from the canyon. Both surface and subsurface runoff is collected in the following tunnels and intakes:

- Upper Intake
- Smith Tunnel
- Bee Tunnel

The annual flow diversions have ranged from a low of 924 acre feet in 2004 to a maximum of 5,150 acre feet in 1995. The average annual flow diversion for the ten-year period is about 2,845 acre feet/year. The canyon flow diversions have ranged from 3 to 12 percent of the District total water supply over the past ten years. Flow from these sources is treated at the District's Royer-Nesbit Water Treatment Plant.

Current and Planned Water Supplies (continued)

Local Canyons (continued)

East Etiwanda Canyon. The District acquired water rights in East Etiwanda Canyon when it acquired the Etiwanda Water Company. The rights are appropriative and include all surface and subsurface flows originating from the canyon. The annual flow diversions have ranged from a low of 308 acre feet in fiscal year 2004 to a maximum of 1,717 acre feet in fiscal year 1995. The average annual flow diversion for the ten-year period is about 948 acre feet/year. The canyon flow ranged from 1 to 4 percent of the District's total water supply over the past ten years. The flows from this source are also treated at the District's Royer Nesbit Water Treatment Plant.

Imported Water

Untreated imported water is delivered to the District's service area by MWD through the State Water Project via Lake Silverwood and conveyed through the Foothill Feeder pipeline. There are no contractual limits to the amount of imported water that can be utilized by the District. The District currently has two MWD service connections.

The District's imported water purchases from its two connections CB-7 and CB-16 over the last ten years have ranged from 12,412 acre feet in 1995 to 33,638 acre feet in 2004. The amount of imported water purchased from MWD has increased each year, over the last five-year period, with this source comprising 58 percent of the District's supply in 2000 to 64 percent in 2003 and 61 percent in 2004. The District treats imported water at both its Lloyd W. Michael and the Royer Nesbit Water Treatment Plants.

Recycled Water

Recycled water is a major component of the District's future water supply. Recycled water is a reliable cost efficient way to reduce the District's reliance on imported water supplied by Metropolitan Water District.

Wastewater generated within the District's service area is discharged to the Inland Empire Utilities Agency (IEUA) which provides regional wastewater treatment for its member agencies. IEUA recognized the importance of water recycling over 24 years ago when it developed an initial recycled water plan in 1981. Although the plan was not implemented, it established IEUA's commitment for a long-range recycled water master planning effort that culminated with the publication of the Recycled Water Master Plan Report.

IEUA owns and operates four wastewater treatment plants: Regional Plant No. 1 (RP-1), Regional Plant No. 4 (RP-4), Carbon Canyon Water Reclamation Plant and Regional Plant No. 5 (RP-5). A fifth treatment plant, RP-2, was decommissioned in 2004 because it was in a potential flood zone.

All of IEUA's wastewater treatment plants produce water that meets or exceeds the State of California Department of Health Services Title 22 requirement for the use of recycled water.

Current and Planned Water Supplies (continued)

Recycled Water (continued)

All wastewater passes through the following treatment process before being discharged or reused:

1. Preliminary Treatment (bar screens and grit removal)
2. Primary Treatment (Primary Settling Tank)
3. Secondary Treatment (Aeration Basin, Coagulation and Secondary Clarifying Tank)
4. Tertiary Treatment and Disinfection (Sand Filters and Chlorine Contact Tanks or Ultaviolet Disinfection).

In addition, IEUA maintains an EPA/State of California approved industrial pre-treatment program for industrial discharges to the sewer system that requires dischargers to comply with water quality objectives and to submit periodic monitoring reports to IEUA. The result of IEUA's treatment process is a supply of high quality tertiary treated water suitable for irrigation, industrial water supply, groundwater recharge, environmental enhancement and unrestricted recreation use such as boating and fishing.

Available recycled water supplies are projected to exceed 176,000 acre feet per year ultimately. In conformance with the 1969 Orange County Judgment, 17,000 acre feet per year of water must be discharged to the Santa Ana River, leaving more than 159,000 acre feet of recycled water available for beneficial use within the IEUA service area by 2025.

In the short term, the primary focus of IEUA's recycled water program will be connection of industrial and landscape customers and development of facilities to ensure cost-effective delivery of recycled water to groundwater recharge spreading sites. In the long term, IEUA seeks to construct a "looped" regional system that will interconnect the IEUA water reclamation plants, ensure direct supply reliability to customers and maximize the flexibility to recharge all surplus recycled water in flood control spreading grounds.

Regional facilities will be constructed and owned by Inland Empire Utilities Agency. Local distribution facilities will deliver recycled water from the regional facilities to customers within the District's area. Phase I construction began in 2003 and will be completed in 2005. During this phase recycled water will be made available to a number of customers including a PGA-quality golf course.

Phase II and III of the Implementation Plan are currently being designed and completion of construction for Phase II projects is anticipated by late Spring 2006 with work on Phase III continuing through the latter part of 2006. Table 4 shows the projections for the use of recycled water as a part of the District's total water supply.

Current and Planned Water Supplies (continued)

Satellite Water Recycling Plants

As an addition to the regional recycled water system, the District is pursuing State and Federal funding to construct two satellite water recycling plants. These plants are designed to skim wastewater from the trunk sewer system for treatment creating a supply of high quality recycled water suitable for reuse including landscape irrigation. The plants will be compact in self-contained buildings, designed to be odor-free and compatible with the surrounding environment. Utilizing the latest membrane bioreactor technology, the footprint of the buildings will be small when compared to a conventional wastewater treatment plant. The two proposed facilities will treat 2 million gallons and 1.5 million gallons/day respectively.

Recycled Water for Groundwater Recharge

In April 2005, the Santa Ana Regional Water Quality Control Board authorized the use of recycled water for recharge of the Chino Groundwater Basin. As a result, the quantity of imported water used for this purpose will be reduced. The recharge project program requires that a blend of imported water, recycled water, and stormwater be used to recharge the basin, which serves as the primary water supply for about 750,000 people. Recycled water from Inland Empire Utilities Agency (IEUA) will be used as part of the program. As part of the regional program IEUA is upgrading 20 groundwater recharge basins which will use recycled water as early as June. Eventually, the program aims to recharge as much as 22,000 acre feet of recycled water back into the basin.

Reliability of Supply

Law

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable and provide data for each of the following:

(1) An average water year
(2) A single dry water year
(3) Multiple dry water years.

Reliability

The Cucamonga Valley Water District has three primary water supply sources. Imported water is delivered by Metropolitan Water District of Southern California and is purchased from the Inland Empire Utilities Agency. This water is delivered through the State Project aqueduct and then MWD's Foothill Feeder to the District's service connection. Additionally local canyon water is collected by the District as surface and subsurface flows from Cucamonga Canyon, Deer Canyon, Day Canyon and East Etiwanda Canyon and groundwater is produced from the Chino Basin and the Cucamonga Basin.

Table 8
Supply Reliability – AFY

		Multiple Dry Water Years			
Average / Normal Water Year	**Single Dry Water Year**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
51,245	49,150	50,716	50,663	50,583	50,583
% of Normal	95.9%	92.0%	91.9%	91.8%	91.8%

The above Table 8 is based on the following average, single-dry and multiple-dry years as listed in Table 9.

Table 9
Basis of Water Year Data

Water Year Type	Base Year(s)	Hist. Sequence
Average Water Year	2003-04	2000-04
Single-Dry Water Year	2000-01	
Multiple-Dry Water Years	2000-03	

Reliability of Supply (continued)

Table 10
Factors Resulting in Inconsistency of Supply

Name of Supply	Legal	Environ-mental	Water Quality	Climatic
Imported Water		X		X
Canyon Runoff		X		X
Groundwater			X	

Imported Water

The State Project water source is vulnerable to state-wide and regional droughts and this water source is over committed and subject to cut backs during dry years. The water delivery facilities, i.e. State Aqueduct and Foothill Feeder, are at risk from damage due to a significant seismic event along a major fault. A backup supply to the State Water Project source from the Colorado River is not available to the District.

While the State Water Project water is the least reliable on a long-term basis, it is considered the most reliable on a short-term basis. Imported water delivered to the District is treated at two water treatment plants. Should a power failure occur, diesel engine-driven generators would keep both plants in operation during a power outage. Additionally, there are treated water clearwells at each of the plants. The stored water can be distributed by gravity flow to sections of the District's service area.

MWD's Integrated Resources Plan identified the need to develop a total of 460,000 acre feet of dry-year storage and water transfer deliveries by 2020. Imported water for direct use has increased significantly in the past twenty years from 11,000 acre feet of water in 1980 to a peak of nearly 65,000 acre feet in 2001. Additional imported water supplies are used for groundwater replenishment contributing to the annual production from the Chino Basin. In its 2004 Updated Integrated Resources Plan, MWD states that their water supply is reliable through 2025.

Local Canyons

The District's local canyon water source diversion and conveyance facilities are susceptible to drought and damage from environmental conditions. As mentioned on page 13, the Grand Prix fire in October 2003 and subsequent rainstorms resulted in severe damage to the facilities that convey this source of water. The variability of water from the local canyon sources also affects their long-term reliability. Runoff from the local canyon sources is lower during the summer months, when water demands are higher, than during the winter months.

Reliability of Supply (continued)

Groundwater

The most reliable source of supply, from a long-term standpoint, is groundwater. Of the two groundwater basins from which the District produces water, the Chino Basin has the largest excess storage capacity. Based on the Chino Basin Optimum Basin Management Plan (APPENDIX E), the Chino Basin is estimated to have the potential to store up to an additional 500,000 acre feet of groundwater. The Cucamonga Basin is being evaluated for storage and recovery program potential, however, on a much smaller scale. Because groundwater basins serve as large underground storage reservoirs, and therefore the effect of short-term climatic changes is reduced. However, on a short-term basis, groundwater source well facilities were judged to be the most susceptible to power outages and/or equipment failures. To address these issues, the District has developed a proactive preventative maintenance program and has back-up power generators at its critical facilities. With diligent oversight of our local groundwater supplies, they will continue to be reliable for years to come.

Water Quality

The District's best quality finished water is imported water treated at the District's water treatment plants. This supply is the lowest in hardness and low in total dissolved solids but has a higher total trihalomethane formation potential than the other water sources. The quality of the runoff collected from local canyons is also considered to have excellent water quality. Local surface water is low in hardness and total dissolved solids and is not impaired by any other contaminants. Both of these sources are treated in accordance with the Surface Water Treatment Rule as well as all other enforceable regulatory requirements including the Stage 1 Disinfection/Disinfection By-Products Rule.

The quality of the groundwater produced from the Chino Basin is higher in hardness than the imported water and local canyon sources. The quality of the groundwater in the Cucamonga Basin is equivalent to that in the Chino Basin, but certain District wells contain concentrations of nitrate and dibromochloropropane (DBCP) that are greater than the maximum contaminant levels allowed by the drinking water regulations. The impaired wells require blending to reduced nitrate and DBCP concentrations to levels that meet drinking water regulations. The District's blending plans have been approved by the State of California Department of Health Services.

Low levels of perchlorate at or near the Action Level established by the State Department of Health Services have been found in some of the District well sources. The District blends this well water with other well water to reduce the level of perchlorate to a non-detectable level.

Reliability of Supply (continued)

Recycled Water

As discussed in the Water Supply section of this document, the use of recycled water will ensure long-term supply reliability and will reduce the District's dependency on imported water supplies. Recycled water is a drought-proof supply that will account for over 10% of CVWD's water supply in the next 15 years.

Transfer and Exchange Opportunities

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (d) Describe the opportunities for exchanges or transfers on a short-term or long-term basis.

Water Transfers

The District is part of the Chino Basin Peace Agreement and Optimum Basin Management Plan. This Agreement, originally approved in June 2000, is in the process of being renegotiated by the parties to the Judgment and will be presented to the Court by the end of 2005. A market for the lease or sale of pumping rights within the Chino Basin is an important part of the management of this groundwater supply. Water exchanges occur regularly among agencies within the basin.

In the future years, there may be more opportunity for transfers of recycled water. The District pays Inland Empire Utilities Agency to treat its wastewater but retains ownership of the treated effluent water or recycled water.

At the present time, Cucamonga Valley Water District has an open-ended agreement with the West San Bernardino County Water District to purchase 500 acre feet per year from their storage account in the Chino Basin. Additionally, the District has a 25-year option contract with Santa Margarita Water District for 4,250 acre feet per year. If the option is exercised, Santa Margarita Water District will be able to call for the water from CVWD in years when Metropolitan Water District has a Tier 2 shortfall. The District will supply water to SMWD by an exchange agreement with Metropolitan Water District wherein CVWD will shift or exchange imported water for local groundwater supplies. This agreement was established for, and specifically limited to, The Ranch Plan development to provide up to 50% of the total amount of anticipated build-out potable water demand.

Table11

Transfer and Exchange Opportunities – AFY

Transfer Agency	Transfer or Exchange	Short term	Proposed Quantities	Long term	Proposed Quantities
West San Bernardino County Water District			500		
Total			500		0

Water Use by Customer Type

Law

> 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:
>
> 10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
>
> (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.
>
> (2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

Past, Current and Projected Future Water Use

Table 12 illustrates Past, Current, and Projected Water Use for the years 2000 through 2025 in acre feet per year as well as the Number of Customer Connections by Customer Type for the same timeframe.

TABLE 12
Past, Current and Projected Water Deliveries

	2000		2005		2010	
	Metered		Metered		Metered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family	35,700	27,910	43,150	32,000	49,840	36,964
Multi-family	814	2,806	925	4,010	1,068	4,632
Commercial	1,150	2,731	1,506	2,934	1,740	3,389
Industrial	407	2,629	625	3,205	722	3,700
Institutional/gov	126	702	144	1,221	166	1,412
Landscape	1,325	10,537	1,792	11,893	2,069	13,739
Agriculture	12	120	9	57	10	64
Total	39,585	47,435	48,151	55,320	55,615	63,900

Water Use by Customer Type (continued)

Past, Current and Projected Water Use (continued)

TABLE12 (continued) Past, Current and Projected Water Deliveries								
	2015		2020		2025		2030 - opt	
	Metered		Metered		Metered		Metered	
Water Use Sectors	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY	# of accounts	Deliveries AFY
Single family	55,026	40,782	60,088	44,543	65,196	48,303	65,196	48,303
Multi-family	1,189	5,110	1,290	5,582	1,401	6,052	1,401	6,052
Commercial	1,920	3,739	2,097	4,083	2,275	4,428	2,275	4,428
Industrial	797	4,082	870	4,458	944	4,835	944	4,835
Institutional/gov	184	1,558	201	1,702	218	1,845	218	1,845
Landscape	2,284	15,158	2,494	16,555	2,706	17,953	2,706	17,953
Agriculture	10	71	10	77	10	84	10	84
Total	61,400	70,500	67,050	77,000	72,750	83,500	72,750	83,500

Sales to Other Agencies

In the past, Cucamonga Valley Water District sold as much as 10,000 acre feet/year to Fontana Water Company. While this amount has been limited to 2,500 acre feet recently, the District has interconnections with surrounding Cities of Ontario and Upland as well as with Fontana Water Company. In the last calendar year, Fontana Water Company purchased less than 500 acre feet.

Table 13 Sales to Other Agencies - AF Year							
Water Distributed	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030 - opt**
Fontana Water Company[1]	10,000	2,500	0	0	0	0	0
Total	10,000	2,500	0	0	0	0	0

[1]Water sold to other agencies comes out of the District's Chino Basin Storage Account. This amount will not be added into the total in Table 15

Additional Water Uses and Losses

There are no other water uses of the District's supply other than those listed in Table 12. Some water losses are normal in any system and can be attributed to any of a number of sources, including fire hydrant use, leaks, water main breaks, construction activities and inaccurate meters. Some losses are also attributable to on-going construction projects in the

Water Use by Customer Type (continued)

Additional Water Uses and Losses (continued)

District's water service area. The District has an on-going leak detection program for main and lateral lines. Meter leaks reported by customers or meter readers are repaired as quickly as possible (see BMP 03). Water used for the Grand Prix fire in October 2003 should be included in this category.

Table 14
Additional Water Uses and Losses - AF Year

Water Use	2000	2005	2010	2015	2020	2025	2030 - opt
Unaccounted-for system losses	3,282	536	1,500	2,000	2,500	2,500	2,500
Total	3,282	536	1,500	2,000	2,500	2,500	2,500

Total Water Use

Table 15
Total Water Use - AF Year

Water Use	2000	2005	2010	2015	2020	2025	2030 - opt
Total of Tables 12, 13, 14	50,717	55,856	65,400	72,500	79,500	86,000	86,000

Water Demand Management Measures

Law

> 10631 (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:
> (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:……..

Cucamonga Valley Water District is a signatory to the Memorandum of Understanding (MOU) regarding Urban Water Conservation in California and is therefore a member of the California Urban Water Conservation Council (CUWCC). CVWD has made a good faith effort to implement the Best Management Practices (BMP's) and the District is also an active participant in Inland Empire Utilities Agency's Water Conservation Work Group as well as conservation meetings hosted by MWD.

For the purpose of responding to the Urban Water Management Planning Act, the most recent BMP Activity Report submitted to the Council for reporting years 2003-04 is attached as APPENDIX F.

Planned Water Supply Projects and Programs

Law

> 10631 (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

Planned Water Supply Projects and Programs, including non-implemented Demand Management Measures (DMMs)

Over the last few years the District has increased its activity in the development of conservation programs which increases its available potable water supply. The District is currently working in conjunction with Inland Empire Utilities Agency and other regional partners to take advantage of other available resources. Over the last four years, conservation has increased from 49 acre feet per year to 200 acre feet per year.

Table 16
Evaluation of unit cost of water resulting from non-implemented / non-scheduled DMMs and planned water supply project and programs

Non-implemented & Not Scheduled DMM / Planned Water Supply Projects (Name)	Per-AF Cost ($)
N/A	

Future Water Supply Projects

The cost of groundwater is significantly less than imported water and it is the primary source of water that can reduce the District's dependence on imported water. Therefore, the major future water supply projects are directed toward increasing the District's groundwater pumping capacity. Additionally, funding for several wells will come from the Chino Basin/Inland Empire Utilities Agency/Metropolitan Water District's Dry Year Yield Program.

Planned Water Supply Projects and Programs (continued)

Future Water Supply Projects (continued)

Table 17
Future Water Supply Projects

Project Name	Projected Start Date	Projected Completion Date	Normal-year AF to agency	Single-dry year yield AF	Multiple-Dry-Year 1 AF	Multiple-Dry-Year 2 AF	Multiple-Dry-Year 3 AF
Well #43	2006	2007	3,000	3,000	3,000	2,850	2,700
Well #44	2006	2007	3,000	3,000	3,000	2,850	2,700
Well #45	2006	2007	3,000	3,000	3,000	2,850	2,700
Well #46	2007	2008	3,000	3,000	3,000	2,850	2,700
Well #47	2007	2008	3,000	3,000	3,000	2,850	2,700
Well #48	2007	2008	3,000	3,000	3,000	2,850	2,700

Source: CVWD Capital Improvement Budget 2006-07
Wells 44 and 45 are scheduled to be part of the Dry Year Yield Program.

While the capacity per well will depend on the efficacy of the aquifer in the area of the drilled well, it is assumed that an average pumping capacity of 2,500 gallons per minute will be attained with each well pumping 75% of the time.

Groundwater supplies are less affected by dry periods than are local surface water and imported water supplies. The groundwater basin is a closely managed underground reservoir. When pumping is increased as a result of other water supply cutbacks and producers exceed their pumping rights, replenishment water must be returned to the basin. It is anticipated that a three year dry cycle could reduce pumping by 5% to 10%.

The District's proposed projects for future water supply include the construction of new wells. The development of additional groundwater as well as recycled water supplies, in conjunction with conservation, will significantly reduce the District's need for imported water.

Development of Desalinated Water

Law

10631 (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

Table 18 Opportunities for desalinated water	
Sources of Water	**Check if yes**
Ocean Water	
Brackish ocean water	
Brackish groundwater	

Cucamonga Valley Water District is located inland approximately 40 miles, therefore desalinated ocean water is not an option.

The total dissolved solids (TDS) in water produced from the District's Cucamonga and Chino Basin wells ranges from 200 to 360 mg/L after blending with other supplies. On a regional basis, groundwater in the southern part of the Chino Basin is as high as 1,000 to 2,000 mg/L.

Current or Projected Supply Includes Wholesale Water

Law

> 10631 (k) Urban water suppliers that rely upon a wholesale agency for a source of water, shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extend practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

Table 19
Agency demand projections provided to wholesale suppliers – AFY

Wholesaler	2010	2015	2020	2025	2030 – opt
Metropolitan Water District	29,000	29,000	29,000	29,000	29,000

Source: CVWD Water Supply Planning Strategy Report 11/04

Cucamonga Valley Water District purchases imported water from Metropolitan Water District through Inland Empire Utilities Agency. Metropolitan is a wholesale water agency that serves water imported from Northern California (State Water Project) and the Colorado River to its 27 member agencies.

According to Inland Empire Utilities Agency's Urban Water Management Plan, the demand for direct delivery of imported water in their service area is projected to decrease from about 85,000 acre feet per year in 2005 to 40,000 acre feet per year by 2025. The decrease in imported water is attributable to increased groundwater pumping and a greater use of recycled water. Below in Table 20, the existing supply shows the quantity of imported water available to Inland Empire Utilities Agency. The planned supply will decrease since the use of recycled water supplements the total supply required.

Current or Projected Supply includes Wholesale Water (continued)

Table 20 Wholesaler identified & quantified the existing and planned sources of water- AFY										
Wholesaler sources	**2010**		**2015**		**2020**		**2025**		**2030 - opt**	
	Existing	**Planned**	**Existing**	**Planned**	**Existing**	**Planned**	**Existing**	**Planned**	**Existing**	**Planned**
Metropolitan Water District	75,700	72,250	80,000	60,690	82,400	50,980	100,000	45,000	100,000	45,000

Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan

The State Water Project provides imported water to Metropolitan's service area and has historically provided from 25 to 50 percent of required supplies. Metropolitan, under contract with the State Department of Water Resources is allocated 2,011,500 acre feet per year. Actual deliveries have never reached this amount and are dependent on availability of supplies as determined by the State. DWR estimates that with current facilities and regulatory environment, the State Water Project will deliver an average of 3 million acre feet per year. Under its contract that was executed in 1960, Metropolitan may utilize 48% of this quantity. Further, under the current water supply contract which expires in 2035, DWR is required to make reasonable efforts to maintain and increase the reliability of service to Metropolitan and its member agencies.

Inland Empire Utilities Agency projects that the region will be able to meet 100 percent of the dry year demand with the following combination of sources:

Table 21 Supply Reliability - % of normal AFY					
		Multiple Dry Years			
Sources	**Single Dry**	**Year 1**	**Year 2**	**Year 3**	**Year 4**
Groundwater	115%	115%	115%	115%	115%
Recycled Water	100%	100%	105%	110%	110%
Surface Water	31%	49%	84%	77%	77%
Imported Water	68%	68%	68%	68%	68%

Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan

The development of groundwater storage and conjunctive use programs, recycled water and wateruse programs, surface water supplies and improvements in water quality and conservation will greatly reduce the need for imported water supplies during dry years.

Table 22 Factors resulting in inconsistency of wholesaler's supply				
Name of supply	**Legal**	**Environment**	**Water Quality**	**Climatic**
Imported Water		X		X

Determination of Demand Management Measures Implementation

Law

> 10631.5 The department shall take into consideration whether the urban water supplier is implementing or scheduled for implementation, the water demand management activities that the urban water supplier identified in its urban water management plan, pursuant to Section 10631, in evaluating applications for grants and loans made available pursuant to Section 79163. The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities.

Cucamonga Valley Water District is a signatory to the Memorandum of Understanding (MOU) regarding Urban Water Conservation in California and is therefore a member of the California Urban Water Conservation Council (CUWCC). The most recent BMP Activity Report submitted to the Council for reporting years 2003-04 is attached as APPENDIX F.

Water Shortage Contingency Plan

Law

> 10632 The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier: (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

Beginning in the late 1980's Cucamonga Valley Water District implemented the first phase of its conservation program in response to the drought which ended in the early 1990's. During this time CVWD became a signatory to the Memorandum of Understanding for Urban Water Management and agreed to make a "good faith" effort of complying with the 14 "Best Management Practices" for conservation. The District also established two ordinances in 1990 and 1991 addressing water supply availability during emergencies as well as the willful wasting of water. These ordinances provided the necessary legal authority to mandate reduced water consumption by customers in the event of a prolonged drought (see APPENDIX G). Much of the momentum for implementation of a drought response plan or conservation program implementation diminished in 1992 which proved to be an extremely wet year. The District has continued to encourage conservation through public education both for adults and school age children, appliance and plumbing retrofit rebate programs.

In 2001, the District modified its mission statement acknowledging that as a provider of water, the District was committed to practicing good stewardship of natural and financial resources. If CVWD is to provide for the long-term water supply needs of a growing community it must have in place a strategy that not only effectively manages its water resources but also takes action to protect its water supply and encourage its use in the most efficient manner possible. In 2004 the Board of Directors adopted a Water Supply Planning Strategy that established a goal of achieving annual conservation of 10% by 2010.

Currently, Cucamonga Valley Water District is in the process of revising and updating both water conservation ordinances. The District is considering the stages listed on Table 23 in assessing the triggering mechanism for declaring a mandatory reduction in water usage.

Water Shortage Contingency Plan (continued)

Stages of Action

Table 23		
Water Supply Shortage Stages and Conditions		
RATIONING STAGES		
Stage No.	**Water Supply Conditions**	**% Shortage**
Voluntary	Projected supply is insufficient to provide normal deliveries for two or more years	5% to 10%
1	Projected supply is insufficient to provide 80% of normal deliveries for two or more years	10% to 20%
2	Projected supply is insufficient to provide 65% of normal deliveries for two or more years	20% to 35%
3	Projected supply is insufficient to provide 50% of normal deliveries for two or more years	35% to 50%

Estimate of Minimum Supply for Next Three Years

Law

> 10632 (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

As outlined in Table 2 Population – Current and Projected, the Cucamonga Valley Water District's service area is rapidly expanding. The community has willingly responded to requests to eliminate or reduce outdoor water use during several shutdowns of the imported water pipeline during the last several years.

Below is an estimate of the minimum required water supply to serve the District's customers during a three-year period. In the event that this amount of water was all that was available to the District, customers would be required to conserve significantly during the period of reduced supplies. Recycled water was not considered as a source of supply in the table below. In the future, it is anticipated that recycled water will constitute from 13% to 20% of the District's water supply.

Table 24
Three-Year Estimated Minimum Water Supply - AF Year

Source	Normal	Year 1	Year 2	Year 3
Groundwater	16,535	15,722	15,706	17,704
Local Canyon Water	1,653	3,550	3,546	3,541
Imported Water	36,926	31,444	31,411	29,338
Total	55,114	50,716	50,663	50,583

Catastrophic Supply Interruption Plan

Law

10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

Table 25
Preparation Actions for a Catastrophe

Possible Catastrophe	Check if Discussed
Regional power outage	✓
Earthquake	✓
Other – MWD Shutdown	✓

Response to Emergencies

During the past three years, MWD has shut down the Rialto Feeder five times. Four shutdowns were for routine inspection and maintenance and were performed during periods of low water demand. On one occasion, emergency repairs were required to prevent a catastrophic failure of this major transmission line. This emergency shutdown took place during June 2004. The District responded by requesting customers to stop all non-essential water use, including landscape irrigation use. Cooperation by the District's customers allowed completion of necessary repairs without incident to the District's available water supply.

Earthquakes, floods, fires and power outages can happen at any time and without prior notice. To address this issue, CVWD has developed a "scaled response" to emergencies:

Minor emergencies – Level 1 – Often handled by a single person or a small crew. These emergencies may range from a broken fire hydrant, to a minor sewer system overflow, to an isolated power outage. Other minor emergencies sometimes require assistance from engineering staff or other maintenance groups. An example of this type of emergency would include a power outage that affects one pumping facility. Complete activation of the District's Emergency Operations Center (EOC) is generally not required in these instances.

Major emergencies – Level 2 – Require a response from multiple CVWD departments, or outside parties. They may involve customer and field service representatives, maintenance and operations crew, engineers, purchasing, police, fire, and other water districts. In this type

Catastrophic Supply Interruption (continued)

Response to Emergencies (continued)

of emergency, the General Manager/CEO would activate the District's EOC and notify the Board of Directors and public as necessary during the event.

Catastrophic emergencies – Level 3 – High magnitude earthquakes, major fires, floods, etc. Response to these emergencies requires complete implementation of the District's Emergency Response Plan, notification and activation of all District employees as required by the District's response policy and full activation of the District's Emergency Operations Center.

Prohibitions, Penalties and Consumption Reduction Methods

Law

10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
(f) Penalties or charges for excessive use, where applicable.

Table 26
Mandatory Prohibitions

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Prohibit non-recycled water fountains and refrigerating	*
Apparatus	
Repairable leaks	*

*Cucamonga Valley Water District is in the process of updating its Water Conservation Program Ordinance. Described below are two ordinances that were previously adopted.

On July 17, 1990 CVWD adopted Ordinance #41, "Prohibiting the Willful Waste of Water" (APPENDIX G). This ordinance states that "No person having water service provided by the District shall permit, or cause to be permitted, any leaks or waste of water which is delivered by the District." The ordinance further "…declared to be unlawful… to use or permit the use of water in any refrigerating apparatus, ornamental fountains or other device in which the water so used is then permitted to flow wastefully."

In all instances where it is discovered that water furnished by the District is being wasted in any way, or being used in violation of the terms of the Ordinance, the District may, after giving reasonable notice of its intention to do so, cause the customer's water to be shut off.

Additionally, on June 12, 1992, CVWD adopted Ordinance #42 (APPENDIX G) establishing a Water Conservation Plan for Emergency Conditions of Water Supply. The purpose of the Ordinance is to establish standards for water conservation and to minimize the effect of a water shortage during a period of drought or natural or man-made disaster.

Prohibitions, Penalties and Consumption Reduction Methods (continued)

The Ordinance provides a thorough definition of emergency conditions of water supply, and establishes an incremental water rate structure based on total water usage. This definition includes the necessary provisions, and criteria for implementation based on an assessment of the District's ability to meet normal water demands for a twelve month period. The rate structure also includes three separate phases based upon the severity of the water conditions, with incremental increases in water costs by a significantly higher percentage. The Ordinance clarifies the standards for various categories of usage such as, multiple dwellings, commercial businesses, and agricultural/landscape/parkways. The Ordinance also establishes a program for monitoring customers using excessive amounts of water in one bi-monthly billing period.

Table 27
Consumption Reduction Methods

Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction (%)
Total estimated reduction from combined efforts		0.5%

Over the last few years the District has increased its activity in the development of conservation programs. The following programs are part of the District's on-going conservation efforts:

Residential rebates for high-efficiency clothes washers, pool covers and toilets (This program is in conjunction with IEUA's water conservation efforts)

Commercial, industrial, and institutional rebate programs for water brooms, spray nozzle replacements, cooling towers and x-ray processors (with IEUA)

Educational outreach programs that include a variety of literature distributed at public events, as well as annual residential landscape class promoting the use of drought tolerant landscapes

Over the last four years, the District's demand management program has attributed to increasing conservation 40% per year. The District's goal is to increase the rate of conservation to approximately 10% of average water demand by the year 2010, which is equal to 6,390 acre feet per year. This goal will be accomplished by continuing existing conservation programs and emphasizing the development of new programs that target a reduction of outdoor water use for both residential and commercial customers. The District is currently operating a pilot audit program that evaluates the irrigation systems of both residential and commercial customers. Recommendations are made to customers on how to improve their overall water efficiency, as well as provide them with water efficient items, such as sprinkler heads, at no cost.

Prohibitions, Penalties and Consumption Reduction Methods (continued)

Through continued efforts at updating the District's Water Conservation Program in the future, a 10% reduction in water use is anticipated by the year 2010.

Table 28
Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
Penalty for excess use	*
Charge for excess use	*

*As mentioned on the previous pages, Cucamonga Valley Water District is in the process of updating its Water Conservation Program Ordinance. A proposed phase of the updated program includes implementing a conservation rate structure which will compel customers to reduce water usage. In addition, another component of the updated program will address drought management as well as the stages for mandatory reductions in water use and penalties for excess use in times of reduced supplies.

Analysis of Revenue Impacts of Reduced Sales during Shortages

Law

> 10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

Table 29 Proposed measures to overcome revenue impacts	
Names of measures	**Check if Discussed**
Rate adjustment	✓
Development of reserves	✓
Excessive water usage penalty charges	✓

Table 30 Proposed measures to overcome expenditure impacts	
Names of measures	**Check if Discussed**
Reduction of imported water demands and reliance on other water supplies	✓
Rate Stabilization Fund	✓

Reserve Policy

The District's Reserve Policy establishes funding levels and formulas to set aside cash balances in the following reserve funds: Operating Reserve, Capital and Equipment Replacement Reserve, and Rate Stabilization Reserve. These funds have been established to provide long-term financial stability for extraordinary fiscal circumstances which may arise during any future fiscal years.

The Operating Reserve fund at a minimum is equal to ten percent (10%) of the annual variable budget costs including the cost of purchased water. The Policy defines "variable budget costs" to include "the cost to produce, purchase, treat and deliver water," as well as General and Administrative expenses.

Analysis of Revenue Impacts of Reduced Sales during Shortages (continued)

Reserve Policy (continued)

The Capital and Equipment Replacement Reserve minimum funding level is 75% of the yearly capital asset depreciation.

The Rate Stabilization Reserve is equal to the cost of purchasing 8,000 acre feet of water from Metropolitan Water District. This Reserve is currently fully funded by the water rate.

Debt Service Reserve is maintained at the level equal to one year's annual debt service obligation with revenues at levels sufficient to meet the rate covenant requirements.

A copy of CVWD's Reserve Policy is attached as APPENDIX H.

Proposed Measures to Overcome Revenue Impacts

With the growth rate of the District's service area at approximately 3% per year and the City of Rancho Cucamonga rated as one of the top 10 fastest growing communities in the country, consumption reductions associated with conservation measures will not reverse the trend of increasing water usage. Even with significant rains in the first three months of 2005, the water demands did not drop below the average of the past three years. Based on the District's estimates, conservation at build-out will total 10% of the District's water supply mix. The greater risk to the District is not achieving this goal and having to replace it with greater production capacities or purchased water. Based on past experience, any penalties charged to customers for excessive water usage during periods of water shortages (droughts) generate sufficient revenues to balance any revenue reductions from decreased water usage.

Proposed Measures to Overcome Expenditure Impacts

The most significant impact to expenditures associated with a water shortage or conservation program is the effect on the cost of water. In most cases, the reduction of water demands will reduce Source of Supply water costs. The revenue impact will vary depending on the mix of our sources of water at the time of the reduction in consumption. The District's current water supply includes: local canyon surface water, groundwater and imported water sources. The District, in these cases, would reduce imported water purchases when feasible. In the event groundwater wells or other production facilities are out of service for maintenance or other reasons, when it is necessary for the District to implement a water shortage program on short notice such as an emergency, reductions in imported water supplies may be difficult to achieve. The District faced these types of challenges during the Grand Prix fires in 2003. The District lost all local canyon sources of water and was faced with replacing that production capacity with imported water supplies. The District was prepared to use its Rate Stabilization Fund if the budget was adversely affected by the increased cost of water. After the emergency concluded and all Federal (FEMA) and State (OES) monies were considered, no revenue impacts were experienced that could not be absorbed in the current year budget.

Analysis of Revenue Impacts of Reduced Sales during Shortages (continued)

Rate Stabilization

The District has a Rate Stabilization Fund as part of its Reserve Policy. The required fund balance is calculated based on the cost of purchasing up to 8,000 acre feet of imported water from the Metropolitan Water District. This funding source would generally be used to temporarily adjust for unexpected purchases of imported water or sudden unanticipated water supply cost increases. The Rate Stabilization Fund, currently funded at $2,880,000 is over 20% of the District's annual budgeted Source of Supply water cost. Any increases for extended period of time would be supplemented by a surcharge or penalty charged to customers who use excessive amounts of water as established by the District.

Draft Ordinance and Use Monitoring Procedure

Law

10632 (h) A draft water shortage contingency resolution or ordinance.
(i) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

Table 31
Water Use Monitoring Mechanisms

Mechanisms for determining actual reductions	Type data expected
Meter reads	Usage
Previous billing cycles usage	Comparison of usage
Previous billing cycles graph	Comparison of usage
Fixed Network Monitors	Daily usage
Fixed Network Monitors	Leak reports
Fixed Network Monitors	Higher than average usage

At the present time, the District is updating its Water Shortage Contingency Plan and it is expected to be adopted by the Board of Directors late 2005 or early 2006. Table 23 on page 32 lists the stages of actions in the District's Emergency Response Plan. These stages will become the basis for the District's Water Shortage Contingency Plan.

In order to determine actual reductions in usage, annual water production figures are compared with annual metered consumption. Metered consumption data are listed and graphed on customers' water bills. The graph provides a visual representation of the previous billings for the past year along with a list of the actual past water consumption.

The District is conducting a pilot study with fixed network monitors. This remote read system allows customer service staff to access daily usage data by wireless connection for accounts with the necessary equipment installed. The network provides constant availability of information and helps to identify leaks when higher than average usage is observed.

All of the above measures will be used jointly to determine actual reductions in water use. The District's Water Supply Planning Strategy establishes conservation as a component of the future water supply and having mechanisms in place for determining actual reductions will help achieve the District's conservation goals.

Recycled Water Plan

Law

10633 The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include the following:

Coordination

Table 32
Participating agencies

	participated
Water agencies	2
Wastewater agencies	1
Groundwater agencies	1
Planning Agencies	1

Water Agencies: CVWD and IEUA
Wastewater Agencies: IEUA
Groundwater Agencies: Chino Basin Watermaster
Planning Agencies: City of Rancho Cucamonga

A Recycled Water Master Plan is currently being developed in conjunction with the agencies above.

Wastewater Quantity, Quality and Current Uses

Law

> 10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.
> (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

Inland Empire Utilities Agency manages the regional collection and treatment facilities within its 242-square mile service area in accordance with the provisions of a Regional Sewerage Contract. IEUA's facilities serve seven contracting agencies: the Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland and Cucamonga Valley Water District.

Table 33
Wastewater Collection and Treatment - AF Year

Type of Wastewater	2000	2005	2010	2015	2020	2025	2030 - opt
Wastewater collected & treated in service area	0	86,700	111,400	123,150	134,900	197,000	197,200
Volume that meets recycled water standard	0	86,700	111,400	123,150	134,900	197,200	197,200

Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan

All of the tertiary treated effluent produced at Inland Empire Utilities Agency's treatment plants meets or exceeds the requirements of California Department of Health Services Title 22 for recycled water.

Table 34
Disposal of wastewater (non-recycled) AF Year

Method of disposal	Treatment Level	2005	2010	2015	2020	2025	2030 – opt
Discharge to Santa Ana River	Title 22	62,752	37,500	12,150	3,300	29,500	29,500
	Total	62,752	37,500	12,150	3,300	29,500	29,500

IEUA has a contractual obligation to discharge a minimum of 17,000 acre feet/year of recycled water to the Santa Ana River for use by Orange County as groundwater replenishment. The amount in Table 34 above represents the difference between produced water (see Table 34) minus 17,000 acre feet, minus the projected recycled water use in Table 35.

Wastewater Quantity, Quality and Current Use (continued)

Table 35
Recycled Water Uses - Actual and Potential (AFY)

User type	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
Agriculture	Title 22	1,007	500	700	700	700	700
Landscape	Title 22	4,721	24,400	53,300	58,000	62,000	62,000
Wildlife Habitat	Title 22	0	0	0	0	0	0
Wetlands	Title 22	0	0	0	0	0	0
Industrial	Title 22	720	7,000	7,000	12,500	18,000	18,000
Groundwater Recharge	Title 22	500	25,000	33,000	50,000	70,000	70,000
	Total	6,948	56,900	94,000	121,200	150,700	150,700

Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan

Table 36
Projected Future Use of Recycled Water in Service Area (AFY)

User type	2005	2010	2015	2020	2025	2030 – opt
Agriculture	0	0	0	0	0	0
Landscape	0	8,000	13,000	15,600	16,600	16,600
Wildlife Habitat	0	0	0	0	0	0
Wetlands	0	0	0	0	0	0
Industrial	0	2,256	2,918	3,624	5,000	5,000
Groundwater Recharge[1]	0	0	0	0	0	0
Total	0	10,256	15,918	19,224	21,600	21,600

Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan
[1]Estimated breakout by user type. Figures do not include groundwater recharge. Chino Basin Watermaster controls the amount of groundwater recharge. Recycled water may not constitute more than 20% of recharged water.

Table 37
Recycled Water Uses - 2000 Projection compared with 2005 actual - AFY

User type	2000 Projection for 2005	2005 actual use
Agriculture		
Landscape		
Wildlife Habitat		
Wetlands		
Industrial		
Groundwater Recharge		
Total	4,000	0

At the time the 2000 Urban Water Management Plan was prepared, it was estimated that 4,000 acre feet/year of recycled water would be used in CVWD's service area. CVWD is dependent on IEUA for construction of the regional recycled water transmission mains to deliver recycled water from the regional wastewater treatment plants to CVWD. Construction of the first transmission line has been completed and the next phase of the regional facility is expected to be complete in late 2006.

Potential and Projected Use, Optimization Plan with Incentives

Law

10633 (d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, an other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.
(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.
(f) A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre feet of recycled water used per year.
(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

Table 38
Methods to Encourage Recycled Water Use

Actions	AF of use projected to result from this action				
	2010	2015	2020	2025	2030 - opt
Financial incentives					
Reliability					
Total[1]	10,250	15,900	15,900	15,900	15,900

[1]There is no way to separate one incentive from the other. Both contribute to the total use of recycled water.

Cucamonga Valley Water District is working with potential recycled water customers by offering financial assistance for on-site retrofitting. In addition, the District has established a rate for recycled water equal to 75% of the potable water rate providing additional long-term financial incentives. In its communications with potential new customers, the District promotes recycled water as a safe, reliable, drought proof alternate to potable water for non-potable applications.

Water Quality Impacts on Reliability

Law

10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

Table 39
Current & projected water supply changes due to water quality - percentage

water source	2005	2010	2015	2020	2025	2030 - opt
District produced groundwater – Cucamonga Basin	0%	0%	0%	0%	0%	0%
District produced groundwater – Chino Basin	0%	0%	0%	0%	0%	0%
District produced surface water	0%	0%	0%	0%	0%	0%
Purchased from wholesale (Imported water from MWD)	0%	0%	0%	0%	0%	0%

The quality of each of CVWD's water sources is important in meeting future demands as outlined in Table 4. All water served to District customers meets or exceeds all standards established by Federal and State regulations. Regular water sampling is performed to ensure drinking water quality does not exceed Maximum Contaminant Levels (MCLs) allowed by regulation.

CVWD operates all the active wells in the Cucamonga Basin in accordance with a DHS-approved blending plan. Blending of these wells lowers the levels of nitrate and DBCP to comply with MCLs. Several wells are listed as "standby" sources due to high concentrations of nitrate and DBCP. It is not expected that there will be any change in the MCL for each of these contaminants, nor is it expected that concentrations will increase from current levels. If required to install well-head treatment, the District would install ion exchange and granular activated carbon which are the best available treatment technologies to treat these two contaminants. There would be minimal interruption in service to install well-head treatment and this source of water is projected to remain at 100% for future years.

The District's Chino Basin wells produce high quality drinking water and are considered a very reliable source of water. During the next 10 to 15 years, the District plans to drill five to ten new wells in the Chino Basin. This source of water is considered 100% reliable and no supply changes are anticipated due to water quality.

Local surface water supplies from our local canyons were impacted as a result of the Grand Prix fire in October 2003 and subsequent torrential rainstorms in December of that year. Huge debris flows blocked intake structures and in all but one location, District staff has been able to clear or reroute intakes. It is anticipated that the surface water supplies in the

Water Quality Impacts on Reliability (continued)

Cucamonga Canyon will be restored by August 2005 using grant funding provided by FEMA. As a result of the record rainfall in 2004-2005, 9.5% of the District's total water supply came from local surface water sources. This amount is twice what is usually produced from this source in average years. During significant storm events, surface water runoff turbidity temporarily spikes prohibiting the District's ability to use these sources and surface water flows are allowed to proceed downstream being captured for groundwater recharge. After flows recede to normal levels, they are returned to the District's collection system for treatment. Other than occasional spikes in turbidity during storms, no water quality problems have been experienced or are expected from this source. This supply is considered 100% reliable in terms of water quality.

Imported water purchased from Metropolitan Water District is treated at the Lloyd Michael Water Treatment Plant and has the lowest hardness, is low in TDS, and contains no DBCP or nitrates. The water, however, has a higher total trihalomethane (TTHM) formation potential than other water sources. The District meets all the requirements of the Interim Enhanced Surface Water Treatment Rule as well as the Stage 1 Disinfection/Disinfection By-Products (D/DBP) Rule. When the Stage 2 D/DBP Rule is finalized, the District will have two years to conduct and finalize an Initial Distribution System Evaluation to select new compliance monitoring sites that reflect the distribution system's highest TTHM and Haloacetic acid levels. When Stage 2 takes effect, monitoring locations will be based on the results of the system evaluation. In addition, treatment plant process modifications may be required in order to comply with Stage 2 D/DBP Rule.

With the future shift of the District's water production toward groundwater, the District's demand for imported water may be reduced slightly over time. In light of this reduced demand and of Metropolitan Water District's continuing diligence to secure adequate future imported water supplies to meet imported water delivery requirements, it is assumed that non-treated imported water will be 100% reliable to CVWD for the foreseeable future.

Water Service Reliability

Law

10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water u se over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.
(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city of county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.
(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.
(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

Projected Normal Water Year Supply and Demand

Table 40
Projected Normal Water Supply – AF Year

(from table 4)	2010	2015	2020	2025	2030 - opt
Supply	84,470	96,780	103,750	106,130	106,130
% of Normal Year (from Table 8)	164.8%	188.9%	202.5%	207.1%	207.1%

Table 41
Projected Normal Water Demand – AF Year

(from table 15)	2010	2015	2020	2025	2030 - opt
Demand	65,400	72,500	79,500	86,000	86,000
% of year 2005	118.2%	131.0%	143.7%	155.5%	155.5%

Table 42
Projected Supply and Demand Comparison - AF Year

	2010	2015	2020	2025	2030 - opt
Supply totals	84,470	96,780	103,750	106,130	106,130
Demand totals	65,400	72,500	79,500	86,000	86,000
Difference	19,070	24,280	24,250	20,130	20,130
Difference as % of Supply	22.6%	25.1%	23.4%	19.0%	19.0%
Difference as % of Demand	29.2%	33.5%	30.5%	23.4%	23.4%

Water Supply Reliability (continued)

Projected Single-Dry-Year Supply and Demand Comparison

The following tables represent the supply, demand and supply/demand comparisons for single and multiple year drought scenarios for 2010, 2015, 2020, 2025 and 2030. The District is expected to meet 100% of its demand under every scenario.

Table 43
Projected single dry year Water Supply - AF Year

Supply	2010	2015	2020	2025	2030 - opt
Imported Water[1]	26,100	26,100	26,100	26,100	26,100
Groundwater - Chino Basin[2]	28,000	34,000	37,000	37,000	37,000
Dry Year Yield Program	2,430	2,430	2,430	2,430	2,430
Groundwater - Cucamonga Basin	5,400	5,400	5,400	5,400	5,400
Local Surface Water[3]	3,000	3,000	3,000	3,000	3,000
Conservation	6,390	7,050	7,700	7,700	7,700
Recycled Water[4]	10,256	15,918	19,224	21,600	21,600
Total Supply	81,576	93,898	100,854	103,230	103,230
% of projected normal	99.8%	97.0%	101.4%	102.8%	102.8%

[1]Imported water assumption – 90% of normal deliveries in a single dry year
[2]Groundwater assumption – 100% in a single dry year. Groundwater supplies do not include storm water or recycled water recharge. Chino Basin Watermaster controls the amount of groundwater recharge.
[3]Local surface water assumption – this is a conservative estimate of available supply
[4]Recycled water: Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan. Figures do not include recharge. Recycled water may not constitute more than 20% of recharged water.

Table 44
Projected single dry year Water Demand - AF Year

Demand	2010	2015	2020	2025	2030 – opt
Single Family	36,964	40,782	44,543	48,303	48,303
Multi-family	4,632	5,110	5,582	6,052	6,052
Commercial	3,389	3,739	4,083	4,428	4,428
Industrial	3,700	4,082	4,458	4,835	4,835
Institutional/gov	1,412	1,558	1,702	1,845	1,845
Landscape	13,739	15,158	16,555	17,953	17,953
Agriculture	64	71	77	84	84
Total Demand[1]	63,900	70,500	77,000	83,500	83,500
% of projected normal	100%	100%	100%	100%	100%

[1]No reduction projected in a single dry year.

Table 45
Projected single dry year Supply and Demand Comparison - AF Year

	2010	2015	2020	2025	2030 - opt
Supply totals	81,576	93,898	100,854	103,230	103,230
Demand totals	63,900	70,500	77,000	83,500	83,500
Difference	17,676	23,398	23,854	19,730	19,730
Difference as % of Supply	21.7%	24.9%	23.7%	19.1%	19.1%
Difference as % of Demand	27.7%	33.2%	31.0%	23.6%	23.6%

Water Supply Reliability (continued)

Projected Multiple-Dry-Year Supply and Demand Comparison

Table 46 Projected supply during multiple dry year period ending in 2010 - AF Year					
Supply	**2006**	**2007**	**2008**	**2009**	**2010**
Imported Water[1]	26,100	24,650	24,650	23,200	21,750
Groundwater - Chino Basin[2]	16,000	19,000	23,750	23,750	25,200
Dry Year Yield Program	2,430	2,430	2,430	2,430	2,430
Groundwater - Cucamonga Basin[2]	5,400	5,400	5,130	5,130	4,860
Local Surface Water[3]	3,000	3,000	2,850	2,850	2,700
Conservation	5,000	7,500	10,500	10,500	10,500
Recycled Water[4]	10,256	15,918	19,224	21,600	21,600
Total Supply	68,186	77,898	88,534	89,460	89,040
% of projected normal	111.0%	122.4%	131.6%	122.5%	112.4%

[1]Imported water assumption – 90% of normal deliveries in 1st dry year, 85% in 2nd and 3rd years, 80% in 4th year and 75% in 5th year
[2]Groundwater assumption – 100% in a 1st and 2nd dry year, 95% in 3rd and 4th years 90% in 5th year. Groundwater pumping is expected to increase over these five years. Groundwater supplies do not include storm water or recycled water recharge. Chino Basin Watermaster controls the amount of groundwater recharge.
[3]Local surface water assumption – this is a conservative estimate of available supply
[4]Recycled water: Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan. Recycled water numbers do not include recharge. Recycled water may not constitute more than 20% of recharged water. No reduction in recycled water is projected.

According to the Report on Metropolitan's Water Supplies, A Blueprint for Reliability dated March 25, 2003, the State Water Project has historically provided from 25% to 50% of Metropolitan's supplies. Metropolitan and its member agencies have developed supply contingencies to protect the reliability of its entire system. MWD has been aggressively preparing for the Colorado River supply to be curtailed as a part of its long-term planning. Water transfer programs, outdoor conservation measures, development of additional local resources such as recycling, conjunctive use programs, brackish water desalination and seawater desalination, along with the storage in the Eastside Reservoir are part of the resources MWD has been expediting over the last five years. Because of these integrated resources, MWD expects to have a reliable water supply for the foreseeable future.

In multiple dry years, groundwater is a more reliable supply than imported water. Recycled water supplies will increase over the five dry years and will not be subject to cutbacks. The availability of local canyon supplies is determined by climate changes and precipitation. However, the estimate of local surface water available is conservative since improvements planned by the District will improve the capture of canyon runoff and the anticipated available supply is greater than projected. Conservation programs currently in place and future proposed programs are expected to continue to increase in efficacy over the five year period. The goal is to increase the rate of conservation to approximately 10% of the District's average water demand by the year 2010.

Table 46 above shows an increase in the District's supply over the five dry years due to construction of wells and repair of the local canyon facilities. While the future years indicate a decrease in supply, there is also a corresponding decrease in expected demand as shown on the comparison tables following each five-year period.

Water Supply Reliability (continued)

Projected Multiple-Dry-Year Supply and Demand Comparison

Table 47 Projected demand during multiple dry year period ending in 2010 - AF Year					
Demand	**2006**	**2007**	**2008**	**2009**	**2010**
Single Family[1]	32,500	31,609	31,283	30,196	29,571
Multi-family[2]	4,046	4,157	4,114	3,971	4,169
Commercial[3]	2,934	3,086	3,054	2,948	3,050
Industrial[3]	3,205	3,370	3,335	3,333	3,330
Institutional/gov[3]	1,221	1,285	1,272	1,228	1,130
Landscape[4]	11,893	12,133	12,008	11,591	11,678
Agriculture[3]	57	60	59	59	58
Total Demand	55,856	55,700	55,125	53,326	52,985
% of projected normal	100%	93.0%	90.0%	85.0%	82.9%

[1]Single family demand reduction assumption - 0% 1st year, 7% 2nd year, 10% 3rd year, 15% 4th year, and 20% 5th year
[2]Multi-family demand reduction assumption - 0% 1st year, 2% 2nd year, 5% 3rd year, 10% 4th year, and 15% 5th year
[3]Commercial, Industrial, Inst./gov. and Agriculture demand reduction assumption – 0% 1st year, 2% 2nd year, 4% 3rd year, 7% 4th year and 10% 5th year
[4]Landscape demand reduction assumption – 0% 1st year, 5% 2nd year, 10% 3rd year, 15% 4th year and 20% 5th year

Table 48 Projected Supply & Demand Comparison during multiple dry year period ending in 2010 AF Year					
	2006	**2007**	**2008**	**2009**	**2010**
Supply totals	68,186	77,898	88,534	89,460	89,040
Demand totals	55,856	55,700	55,125	53,326	52,985
Difference	12,330	22,198	33,409	36,134	36,055
Difference as % of Supply	18.1%	28.5%	37.7%	40.4%	40.5%
Difference as % of Demand	22.1%	39.9%	60.6%	67.8%	68.0%

Table 49 Projected supply during multiple dry year period ending in 2015 - AF Year					
Supply	**2011**	**2012**	**2013**	**2014**	**2015**
Imported Water[1]	26,100	24,650	24,650	23,200	21,750
Groundwater – Chino Basin[2]	29,200	30,400	30,020	31,160	30,600
Dry Year Yield Program	2,430	2,430	2,430	2,430	2,430
Groundwater - Cucamonga Basin[2]	5,400	5,400	5,130	5,130	4,860
Local Surface Water[3]	3,000	3,000	2,850	2,850	2,700
Conservation	6,522	6,654	6,786	6,918	7,050
Recycled Water[4]	10,500	12,900	14,500	15,000	15,900
Total Supply	83,152	85,434	86,366	86,688	85,290
% of projected normal	95.7%	95.6%	94.0%	91.9%	88.1%

[1]Imported water assumption – 90% of normal deliveries in 1st dry year, 85% in 2nd and 3rd years, 80% in 4th year and 75% in 5th year
[2]Groundwater assumption – 100% in a 1st and 2nd dry year, 95% in 3rd and 4th years 90% in 5th year. Groundwater pumping is expected to increase over these five years. Groundwater supplies do not include storm water or recycled water recharge. Chino Basin Watermaster controls the amount of groundwater recharge.
[3]Local surface water assumption – this is a conservative estimate of available supply
[4]Recycled water: Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan. Recycled water numbers do not include recharge. Recycled water may not constitute more than 20% of recharged water. No reduction in recycled water is projected.

Water Supply Reliability (continued)

Projected Multiple-Dry-Year Supply and Demand Comparison

Table 50 Projected demand during multiple dry year period ending in 2015 - AF Year					
Demand	**2011**	**2012**	**2013**	**2014**	**2015**
Single Family[1]	37,727	35,796	35,329	34,015	32,626
Multi-family[2]	4,727	4,726	4,672	4,513	4,344
Commercial[3]	3,459	3,458	3,455	3,384	3,365
Industrial[3]	3,777	3,776	3,773	3,726	3,674
Institutional/gov[3]	1,445	1,442	1,440	1,422	1,402
Landscape[4]	14,022	13,591	13,131	12,643	12,126
Agriculture[3]	64	65	64	64	64
Total Demand	65,221	62,854	61,864	59,767	57,601
% of projected normal	100%	94.5%	91.2%	86.4%	81.7%

[1]Single family demand reduction assumption - 0% 1st year, 7% 2nd year, 10% 3rd year, 15% 4th year, and 20% 5th year
[2]Multi-family demand reduction assumption - 0% 1st year, 2% 2nd year, 5% 3rd year, 10% 4th year, and 15% 5th year
[3]Commercial, Industrial, Inst./gov. and Agriculture demand reduction assumption – 0% 1st year, 2% 2nd year, 4% 3rd year, 7% 4th year and 10% 5th year
[4]Landscape demand reduction assumption – 0% 1st year, 5% 2nd year, 10% 3rd year, 15% 4th year and 20% 5th year

Table 51 Projected Supply & Demand Comparison during multiple dry year period ending in 2015 AF Year					
	2011	**2012**	**2013**	**2014**	**2015**
Supply totals	83,152	85,434	86,366	86,688	85,290
Demand totals	65,221	62,854	61,864	59,767	57,601
Difference	17,931	22,580	24,502	26,921	27,689
Difference as % of Supply	21.6%	26.4%	28.4%	31.1%	32.5%
Difference as % of Demand	27.5%	35.9%	39.6%	45.0%	48.1%

Table 52 Projected supply during multiple dry year period ending in 2020 - AF Year					
Supply	**2016**	**2017**	**2018**	**2019**	**2020**
Imported Water[1]	26,100	24,650	24,650	23,200	21,750
Groundwater – Chino Basin[2]	34,600	34,000	33,440	34,010	33,300
Dry Year Yield Program	2,430	2,430	2,430	2,430	2,430
Groundwater - Cucamonga Basin[2]	5,400	5,400	5,130	5,130	4,860
Local Surface Water[3]	3,000	3,000	2,850	2,850	2,700
Conservation	7,180	7,310	7,440	7,570	7,700
Recycled Water[4]	16,564	17,228	17,892	18,556	19,220
Total Supply	95,274	94,618	93,832	93,746	91,960
% of projected normal	97.0%	95.0%	92.9%	91.6%	88.6%

[1]Imported water assumption – 90% of normal deliveries in 1st dry year, 85% in 2nd and 3rd years, 80% in 4th year and 75% in 5th year
[2]Groundwater assumption – 100% in a 1st and 2nd dry year, 95% in 3rd and 4th years 90% in 5th year. Groundwater pumping is expected to increase over these five years. Groundwater supplies do not include storm water or recycled water recharge. Chino Basin Watermaster controls the amount of groundwater recharge.
[3]Local surface water assumption – this is a conservative estimate of available supply
[4]Recycled water: Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan. Recycled water numbers do not include recharge. Recycled water may not constitute more than 20% of recharged water. No reduction in recycled water is projected.

Water Supply Reliability (continued)

Projected Multiple-Dry-Year Supply and Demand Comparison

Table 53 Projected demand during multiple dry year period ending in 2020 - AF Year					
Demand	**2016**	**2017**	**2018**	**2019**	**2020**
Single Family[1]	41,535	39,327	38,735	37,222	35,634
Multi-family[2]	5,206	5,194	5,124	4,939	4,747
Commercial[3]	3,807	3,797	3,786	3,738	3,675
Industrial[3]	4,158	4,148	4,136	4,076	4,012
Institutional/gov[3]	1,587	1,584	1,578	1,556	1,532
Landscape[4]	15,439	14,932	14,397	13,835	13,244
Agriculture[3]	72	72	71	70	70
Total Demand	71,804	69,054	67,827	65,436	62,914
% of projected normal	100%	94.5%	91.2%	86.4%	81.7%

[1]Single family demand reduction assumption - 0% 1st year, 7% 2nd year, 10% 3rd year, 15% 4th year, and 20% 5th year
[2]Multi-family demand reduction assumption - 0% 1st year, 2% 2nd year, 5% 3rd year, 10% 4th year, and 15% 5th year
[3]Commercial, Industrial, Inst./gov. and Agriculture demand reduction assumption – 0% 1st year, 2% 2nd year, 4% 3rd year, 7% 4th year and 10% 5th year
[4]Landscape demand reduction assumption – 0% 1st year, 5% 2nd year, 10% 3rd year, 15% 4th year and 20% 5th year

Table 54 Projected Supply & Demand Comparison during multiple dry year period ending in 2020 AF Year					
	2016	**2017**	**2018**	**2019**	**2020**
Supply totals	95,274	94,618	93,832	93,746	91,960
Demand totals	71,804	69,054	67,827	65,436	62,914
Difference	23,470	25,564	26,005	28,310	29,046
Difference as % of Supply	24.6%	27.0%	27.7%	30.2%	31.6%
Difference as % of Demand	32.7%	37.0%	38.3%	43.3%	46.2%

Table 55 Projected supply during multiple dry year period ending in 2025 - AF Year					
Supply	**2021**	**2022**	**2023**	**2024**	**2025**
Imported Water[1]	26,100	24,650	24,650	23,200	21,750
Groundwater - Chino Basin[2]	37,000	37,000	35,150	35,150	33,300
Dry Year Yield Program	2,430	2,430	2,430	2,430	2,430
Groundwater - Cucamonga Basin[2]	5,400	5,400	5,130	65,130	4,860
Local Surface Water[3]	3,000	3,000	2,850	2,850	2,700
Conservation	7,700	7,700	7,700	7,700	7,700
Recycled Water[4]	19,250	19,500	20,000	21,000	21,600
Total Supply	100,880	99,680	97,910	97,460	94,340
% of projected normal	96.8%	95.2%	93.1%	92.2%	88.9%

[1]Imported water assumption – 90% of normal deliveries in 1st dry year, 85% in 2nd and 3rd years, 80% in 4th year and 75% in 5th year
[2]Groundwater assumption – 100% in a 1st and 2nd dry year, 95% in 3rd and 4th years 90% in 5th year. Groundwater pumping is expected to increase over these five years. Groundwater supplies do not include storm water or recycled water recharge. Chino Basin Watermaster controls the amount of groundwater recharge.
[3]Local surface water assumption – this is a conservative estimate of available supply
[4]Recycled water: Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan. Recycled water numbers do not include recharge. Recycled water may not constitute more than 20% of recharged water. No reduction in recycled water is projected.

Water Supply Reliability (continued)

Projected Multiple-Dry-Year Supply and Demand Comparison

Table 56 Projected demand during multiple dry year period ending in 2025 - AF Year					
Demand	**2021**	**2022**	**2023**	**2024**	**2025**
Single Family[1]	45,295	42,824	42,119	40,418	38,642
Multi-family[2]	5,676	5,655	5,571	5,362	5,144
Commercial[3]	4,152	4,137	4,118	4,054	3,985
Industrial[3]	4,535	4,518	4,498	4,427	4,352
Institutional/gov[3]	1,730	1,723	1,716	1,689	1,661
Landscape[4]	16,834	16,257	15,654	15,022	14,362
Agriculture[3]	79	78	78	76	76
Total Demand	78,301	75,192	73,754	71,048	68,222
% of projected normal	100%	94.5%	91.2%	86.4%	81.7%

[1]Single family demand reduction assumption - 0% 1st year, 7% 2nd year, 10% 3rd year, 15% 4th year, and 20% 5th year
[2]Multi-family demand reduction assumption - 0% 1st year, 2% 2nd year, 5% 3rd year, 10% 4th year, and 15% 5th year
[3]Commercial, Industrial, Inst./gov. and Agriculture demand reduction assumption – 0% 1st year, 2% 2nd year, 4% 3rd year, 7% 4th year and 10% 5th year
[4]Landscape demand reduction assumption – 0% 1st year, 5% 2nd year, 10% 3rd year, 15% 4th year and 20% 5th year

Table 57 Projected Supply & Demand Comparison during multiple dry year period ending in 2025 AF Year					
	2021	**2022**	**2023**	**2024**	**2025**
Supply totals	100,880	99,680	97,910	97,460	94,340
Demand totals	78,301	75,192	73,754	71,048	68,222
Difference	22,579	24,488	24,156	26,412	26,118
Difference as % of Supply	22.4%	24.6%	24.7%	27.1%	27.7%
Difference as % of Demand	28.8%	32.5%	32.8%	37.2%	38.3%

Table 58 Projected supply during multiple dry year period ending in 2030 - AF Year (OPTIONAL)					
Supply	**2026**	**2027**	**2028**	**2029**	**2030**
Imported Water[1]	26,100	24,650	24,650	23,200	21,750
Groundwater - Chino Basin[2]	37,000	37,000	35,150	35,150	33,300
Dry Year Yield Program	2,430	2,430	2,430	2,430	2,430
Groundwater - Cucamonga Basin[2]	5,400	5,400	5,130	5,130	4,860
Local Surface Water[3]	3,000	3,000	2,850	2,850	2,700
Conservation	7,700	7,700	7,700	7,700	7,700
Recycled Water[4]	19,250	19,500	20,000	21,000	21,600
Total Supply	100,880	99,680	97,910	97,460	94,340
% of projected normal	96.8%	95.2%	93.1%	92.2%	88.9%

[1]Imported water assumption – 90% of normal deliveries in 1st dry year, 85% in 2nd and 3rd years, 80% in 4th year and 75% in 5th year
[2]Groundwater assumption – 100% in a 1st and 2nd dry year, 95% in 3rd and 4th years 90% in 5th year. Groundwater pumping is expected to increase over these five years. Groundwater supplies do not include storm water or recycled water recharge. Chino Basin Watermaster controls the amount of groundwater recharge.
[3]Local surface water assumption – this is a conservative estimate of available supply
[4]Recycled water: Source: Inland Empire Utility Agency's 2005 Urban Water Management Plan. Recycled water numbers do not include recharge. Recycled water may not constitute more than 20% of recharged water. No reduction in recycled water is projected.

Water Supply Reliability (continued)

Projected Multiple-Dry-Year Supply and Demand Comparison

Table 59
Projected demand during multiple dry year period ending in 2030 - AF Year (OPTIONAL)

Demand	2026	2027	2028	2029	2030
Single Family[1]	45,295	42,824	42,119	40,418	38,642
Multi-family[2]	5,676	5,655	5,571	5,362	5,144
Commercial[3]	4,152	4,137	4,118	4,054	3,985
Industrial[3]	4,535	4,518	4,498	4,427	4,352
Institutional/gov[3]	1,730	1,723	1,716	1,689	1,661
Landscape[4]	16,834	16,257	15,654	15,022	14362
Agriculture[3]	79	78	78	76	76
Total Demand	78,301	75,192	73,754	71,048	68,222
% of projected normal	100%	94.5%	91.2%	86.4%	81.7%

[1]Single family demand reduction assumption - 0% 1st year, 7% 2nd year, 10% 3rd year, 15% 4th year, and 20% 5th year
[2]Multi-family demand reduction assumption - 0% 1st year, 2% 2nd year, 5% 3rd year, 10% 4th year, and 15% 5th year
[3]Commercial, Industrial, Inst./gov. and Agriculture demand reduction assumption – 0% 1st year, 2% 2nd year, 4% 3rd year, 7% 4th year and 10% 5th year
[4]Landscape demand reduction assumption – 0% 1st year, 5% 2nd year, 10% 3rd year, 15% 4th year and 20% 5th year

Table 60
Projected Supply & Demand Comparison during multiple dry year period ending in 2030
AF Year (OPTIONAL)

	2026	2027	2028	2029	2030
Supply totals	100,880	99,680	97,910	97,460	94,340
Demand totals	78,301	75,192	73,754	71,048	68,222
Difference	22,579	24,488	24,156	26,412	26,118
Difference as % of Supply	22.4%	24.6%	24.7%	27.1%	27.7%
Difference as % of Demand	28.8%	32.6%	32.8%	37.2%	38.3%

LIST OF APPENDICES

A Map of CVWD's Service Area

B Cucamonga Valley Water District's Water Supply Planning Strategy Report

C Cucamonga Basin Water Management Plan

D Chino Basin Judgment

E Chino Basin Optimum Basin Management Plan (disk)

F CUWCC Reports

G CVWD's Ordinance Nos. 41 and 42

H CVWD's Reserve Policy

I Inland Empire Utilities Agency's Draft Urban Water Management Plan (disk)

J Notice of Public Hearing

K Proof of Publication

L Resolution No. 2005-12-1 Adopting Cucamonga Valley Water District's 2005 Urban Water Management Plan

NOTE:

Appendices are not included in this pdf file.
Please contact Rita Kurth, Water Resource Administrator at Cucamonga Valley Water District, (909) 987-2591